

Homework

classmate

Date _____

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$$1. a) \quad 1 \text{ g/l} = 0.001 \text{ g/cm}^3$$
$$1.28 \text{ g/l} = 1.28 \times 0.001$$
$$= 0.00128 \text{ kg/m}^3$$

$$b) \quad 1 \text{ g/l} = 1 \text{ kg/m}^3$$
$$= 1.28 \text{ g/l} = 1.28 \times 1$$
$$= 1.28 \text{ kg/m}^3$$

2. Dimensions of a hall,

$$\text{Volume} = 10 \text{ m} \times 7 \text{ m} \times 5 \text{ m}$$
$$= 350 \text{ m}^3$$

$$\text{Density of air} = 1.11 \text{ kg/m}^3$$

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

$$\text{Mass of air in the hall} = \text{Density} \times \text{Volume}$$
$$= 1.11 \times 350$$
$$= 388.5 \text{ kg}$$

$$3. \text{ Density of Aluminium} = 2.7 \text{ g/cm}^3$$
$$1 \text{ kg/cm}^3 = 1000 \text{ kg/m}^3$$
$$2.7 \text{ g/cm}^3 = 2.7 \times 1000$$
$$= 2700 \text{ kg/m}^3$$

$$4. \text{ Density of Alcohol} = 600 \text{ kg/m}^3$$
$$1 \text{ kg/m}^3 = \frac{1}{1000} \text{ g/cm}^3$$
$$600 \text{ kg/m}^3 = \frac{600}{1000} \text{ g/cm}^3$$
$$= 0.6 \text{ g/cm}^3$$

5. For a piece of zinc,

$$\text{Mass} = 438.6 \text{ g}$$

$$\text{Volume} = 86 \text{ cm}^3$$

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}} = \frac{438.6}{86} = 5.1 \text{ g/cm}^3$$

6. For a piece of wood,

$$\text{Mass} = 150 \text{ g}$$

$$\text{Volume} = 200 \text{ cm}^3$$

$$\text{a) Density} = \frac{\text{Mass}}{\text{Volume}}$$

$$= \frac{150}{200}$$

$$= 0.75 \text{ g/cm}^3$$

$$\text{b) } 1 \text{ g/cm}^3 = 1000 \text{ kg/m}^3$$

$$0.75 \text{ g/cm}^3 = 0.75 \times 1000$$

$$= 750 \text{ kg/m}^3$$